OLEG BORISOV, PH.D.

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Ph.D. in Analytical Chemistry with hands-on experience in mass spectrometry, laser technology, and chemical analysis. Extensive knowledge of mass spectrometric and separation technologies and their applications to pharmaceutical, biological, and elemental analysis. Technical skills include TOF, q-TOF, single/triple quadrupoles, ion traps, and FT-ICR, LC (RP, CE, size exclusion, affinity), GC, GC-MS. Creative, team-oriented.

EDUCATION

Postdoctoral fellow 04/00 – 05/01
Advisor: Dr. R.D. Smith
Pacific Northwest National Laboratories
Environmental Molecular Sciences Laboratory

Postdoctoral fellow 03/97 – 04/00
Advisor: Dr. R.E. Russo
Lawrence Berkeley National Laboratory

Ph.D. in Chemistry (Analytical), Physics minor 09/92 – 03/97
Advisor: Dr. D.M. Coleman
Wayne State University

M.S. in Chemistry (Magna Cum Laude) 09/85 – 06/92
Moscow State University, Moscow, Russia

EXPERIENCE

Sr. Research Scientist, Analytica of Branford 09/02 – 08/04
Branford, CT

MS instrument development including state-of-the-art TOF and q-TOF MS systems and applications.
Investigation of protein post-translational modifications.
MS application development.
Design, characterization, and interfacing new MS ionization sources (ESI, nano-ESI, APCI, and micro-flow APCI).
Fast micro-LC separations of complex protein and peptide mixtures.
Used protein searching engines.
Responsible for collaborative work/research with customers (private companies, universities.

Scientist II, Group Leader, Magellan Laboratories (Cardinal Health) 05/01 – 09/02
San Diego, CA

Analyzed a wide variety of pharmaceutical, bioanalytical, and drug related products (ranging from small molecules to large proteins from single component solutions to complex mixtures) using MS, LC-MS, LC-MS/MS, and GC-MS systems.
Promptly responded to customer needs and requirements.
Routinely performed qualitative and quantitative analysis.
Utilized MS for structural elucidation and characterization of unknowns.
Generated reports and customer presentations.
Designed experiments, modified and improved existing protocols.
Structural elucidation of a wide variety of drug degradation products, protein and peptide synthetic and post-translational modifications.
Managed structural elucidation group.
Worked under GLP/GMP regulations.

Postdoctoral fellow, Pacific Northwest National Laboratory 04/00 – 05/01
Richland, WA
Advisor: Richard. D. Smith

Mass spectrometry applications to bacterial and mammal proteomics.
Investigated quantitative proteomics strategies.
Operated and maintained ion trap and FTMS instruments.
Design and utilization of chromatographic separations to complex peptide mixtures.
Investigated fragmentation of ICAT- modified peptides.
Designed and conducted multi-photon dissociation (IRMPD) for 7T FTMS.
Investigated and improved applications of database searching algorithms (Sequest and Mascot) to proteomics.
Developed a method of fast identification of Cys-labeled peptides.

Postdoctoral fellow, Lawrence Berkeley National Laboratory 03/97 – 04/00
Berkeley, CA
Advisor: Richard E. Russo

Utilization of mass spectrometry (including single quad and ion trap) for elemental analysis.
Developed and designed laser ablation-based sampling for ICP-MS for fundamental and applied studies.
Studied fundamentals of ion sampling in ICP-MS.
Investigated factors influencing laser beam interactions with solids and elemental fractionation.
Designed and conducted plasma imaging experiments.
Supervised work of students.

Research assistant, Ford Motor Company, Scientific Research Labs 01/94 – 03/97
Dearborn, MI

Diverse fundamental research on a spark-based sampling into ICP-AES and MS with applications in automotive industry.
Rapid response to a wide variety of Ford Motor Company's chemical and materials research needs.

Research included development of a state-of-the-art spark source as an alternative method for sample introduction.

Research assistant, Wayne State University, Chemistry Department 09/92 – 01/94
Detroit, MI
Advisor: David. M. Coleman

Assisted and designed anomalous dispersion experiments to measure atomic number densities in a uni-directional high-voltage spark discharge.

TECHNICAL SKILLS

- Mass Spectrometers (fundamentals, operation, and hands-on experience): TOF, q-TOF, Fourier-Transform, Ion Trap, Single and Triple Quadrupoles;
- ESI/APCI Ionization MS, nano-ESI, MALDI;
- LC-MS, LC-MS/MS, micro-flow LC separations;
- GC-MS;
- HPLC;
- Protein Database Searching (SEQUEST, Mascot);
- Sample Preparation and Wet Chemical Analysis;
- Laser Technologies;
- ICP-AES, ICP-MS;
- Experiment design and conduction.

OTHER SKILLS

Instrument design and construction;
MS and LC software (MassLynx, XCalibur, Analyst, Aviator, Millennium)
Vacuum technology;
Laser technology;
Computer programming (VBA, Mathematica, MatLab)

AFFILIATIONS

American Chemical Society
American Society for Mass Spectrometry
Society for Applied Spectroscopy

TEACHING EXPERIENCE

Graduate Teaching Assistant, Wayne State University 09/92 – 09/94

- Taught General Chemistry, Analytical Chemistry, and Quantitative Analysis courses;
- Conducted lab and quiz sessions;
- Graded lab reports and exams;
- Conducted help sessions for students.

HONORS AND AWARDS

Award for an Outstanding Student Poster Contribution 10/96
at the SAS Poster Session at FACSS annual meeting

David F. Boltz Graduate Award 05/95
for Excellence in Research in Analytical Chemistry
Wayne State University

Diploma with Honors 06/92
Moscow State University

REFERENCES

Prof. David M. Coleman
Wayne State University
Phone Number: (313)-577-2586
dmc@chem.wayne.edu

Dr. Curtis A. Monnig
Cardinal Health, Associate Director
Phone Number: (858)-547-7800
curtis.monnig@cardinal.com

Dr. Richard E. Russo
Lawrence Berkeley National Laboratory, Senior Scientist
Phone Number: (510)-486-4258
rerusso@lbl.gov

Dr. Richard D. Smith
Pacific Northwest National Laboratory, Sr. Staff Tech Group Leader
Phone Number: (509)-376-0723
dick.smith@pnl.gov

PUBLICATIONS (Details are available upon request)

- 17 original papers in scientific journals;
- 15 presentations at national and international meetings;
- Invited chapter in the *"Encyclopedia of Analytical Chemistry: Instrumentation and Applications"*